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THE AGRICULTURAL FUTURE.

It is only by comparing the present with the past that we can approximate what the future shall be. In the world of Agriculture this fact holds good just as in other spheres of human life. If by a broad and comprehensive view of things we can see how the progress is tending, we will be able to get a very fair comprehension of the future in store for farming and the Farmer.

Not very far back in the memory of our elders is found the time when agriculture was dependent upon the physical endurance and skill of the farmer himself, with little or no aid from machinery, and with but few of the improved methods which have now become the common property of the masses. What a stride has been made in a single half century in the one field of agricultural implements? Think of the old method of harvesting grain by the use of the sickles, and then by the wonderful improved method of cradling it; then the gathering and binding it; then the slow process of thrashing it with the flail, and

winnowing it before it could be bagged for market. Now, however, take the operation on some of our great Western farms, and we see all these processes proceeding at once with the Farmer calmly looking on as a director of the great machine. It is cut and thrashed, and winnowed, and bagged by one machine as it passes through the field of ripened grain, and at the same time the seed is cast into the soil for a second crop. All these processes are perfect except the last; the seeding is not yet a full success. But what a vast advance upon the Farmer's work of our early days! Even in our own small fields of grain, the reaper will cut and bind while the Farmer in comfort and ease is riding through the field and guiding the simple harvester. The thrasher follows with his engine, and as if by magic the grain is brought out cleaned, and bagged, and weighed, ready for the purchaser.

This is only one department of the improvement of the present over the past; but it shows what we may expect in all the departments. The great field of growth in agricultural implements is a

continual wonder, the improvements belonging to every tool which comes into the hand of the Farmer. The horse does the work of the hand hoe, the work of the slow casting of seed by the sower, the work of the slow raking of the hay by the haymaker, and the general work of cultivation is transferred to the horse, the Farmer holding his rightful position as the guiding mind, diffusing order and energy through the brute force and the wood and iron and steel placed beneath his control.

The comparatively low cost of tools and implements and agricultural machinery should not be lost sight of, as we compare the present with the past. And when we cast an imagination into the realms of the future, who can picture the possibilities in this department of agricultural life? But we must not rest too long amid the buzz of machinery where genius is perfecting the blessings which shall lighten the labors of agriculture.

Even greater improvements than these are visible in those things which for ages were allowed to take their own course. For example, in Stock. The milk and butter records of to-day surpass the wildest imaginations of our youth, and the developments of pure breeds of cattle, sheep and swine are worthy of volumes by themselves. Even in the one item of chickens, the improvement surpasses belief: What a contrast between the barn yard snub of thirty years ago and the princely Plymouth Rock or lordly Brahma.

The same improvement is going on in fruits and vegetables. Every year produces for us new wonders in these fields. Before his death Marshall P. Wilder used to say, he could remember when only two kinds of grapes were known in this country; but now the varieties are numbered by the hundreds. He used to say he remembered when Strawberries were

brought to market a few baskets at a time and were the luxuries of the rich; now hundreds of car loads fill our markets with this delicious fruit, and they are the common viands of the masses.

The amounts of vegetables which now may be raised, with the assurance of a remunerative market, compared with the past, cannot be estimated. The facilities of fertilization of soil, and the vastly improved methods of cultivation insure immense crops, where in former years, the plodding round of work gave but little encouragement to labor. We used to read of fabulous crops in China and Japan; but now the market gardens of America rival the utmost yields of these Oriental lands. The future of these things in the constant growth of our country no man can foreshadow; but that better and brighter days are the promise none may doubt.

Other matters, however, must be taken into consideration, in looking upon our agricultural future. Farmers, as never before, are becoming united in harmonious work. Fairs, Institutes, Clubs, Reunions, Organizations for mutual aid, comfort and improvement, have sprung up throughout the length and breadth of the land, and as never before knowledge is circulated as to improved methods of farming from the highest to the lowest. Great facts are becoming the common property of all Farmers. The very conditions of success are being arranged upon the steadfast principles of scientific accuracy.

Mind, cultivated mind, improved mind, is becoming the great factor in the farming world, and intelligence is beginning to make the bounds of exceptional success. Much of this is due to the Agricultural Colleges of the present, and the trained minds which they are sending out into the homes of the Farmers all through our country. The past has been barren of

all this. It is a thing of the present; but only in a comparatively crude state now. Joined by the Governmental Experiment Stations, just established, with their liberal endowments, these Colleges enter upon a still broader mission for the Agricultural world and promise a much more perfect work. It is destined to its great development in the future, as these institutions become more capable of meeting the great and growing wants of the sons and daughters of Farmers.

From all these things we can prophesy of the agricultural future of our country. It is of vast and growing importance, and it is destined to a progress, beside which even the improvements of the past half of a century will sink into insignificance. It is well that there still remains plenty of room in our country for this greatest industry of the world, and that the millions upon millions of acres which are still in our Government's hands invite the Agricultural emigrant to our citizenship opening to him the great storehouse of good which is sure to be his in the early future.

It is but folly then to groan over the little eddies, which some will call "hard times," that strike off from the great current of progress which the ages past and present have declared to be the destiny of agriculture in the future for our country.

FARM WORK FOR AUGUST.

There is not much crop-work to be done this month, but a great many things of importance to be attended to—matters that look to work to be done next year, and of immediate concern to the good looks and general improved value of the farm. Out-buildings and fences, if not done before, should have a coat of white or colored wash. Fruit trees can be painted with soap-suds, ashes and sulphur to destroy insects and make the bark clear and smooth. Ditching should be done.

August is the best month for exterminating bushes and briars; killing both of these during the hot dry weather more effectually than at any other time. Grain should be thrashed and sent to market or put in the grainary.

After harvest is over and the crops laid by, all the materials that are to be had on the farm should be collected and put into compost heaps, barn yards, cow and sheep pens. The stock of all kinds are to be looked after, as the pastures are now likely to be poor and the corn fields tempting. See that the milch cows are kept to their milk by extra feeding of cut grass, vegetables, bran or meal and extra care in milking. Do not neglect to use salt freely with all stock, and the young things that have lately been weaned should have ground grain, milk feed or new oats once a day at least. Give the pigs all the waste and decayed fruit and sour milk that you can procure. Farmers have just now more time for these things than tobacco planters who have the inimical worms to fight, but they should use extra exertions to meet their pressing emergencies at this season.

RYE.

This is one crop that certainly should be sown early if a good crop is expected. It is very hardy and bears ill-usage. It can be sown among the standing corn or as early as possible after the corn is cut off. It grows well on any soil that is fertile or has enough soda, potash, silica and both sulphuric and phosphoric acid. A light well-drained soil is most suitable for it. It requires early sowing, to give it time to spread and get good roots before frost. It will in that case give winter and spring pasture to calves and sheep and yield an abundant crop. It is a very valuable and a much neglected crop. As a soiling crop for cows and hogs it is very fine.

AGRICULTURAL SCHOOLS.

EXTRACTS FROM PRESIDENT ADAMS' ADDRESS ON THE NECESSITY OF LEARNING AND GENERAL INTELLIGENCE TO INSURE COMPLETE SUCCESS ON THE FARM.

The president of the Cornell University, Ithaca, N. Y., told the boys at Amherst Agricultural College, Mass., some wholesome facts about agriculture last week.

He insisted, and with much emphasis, that in farming, as in everything else, intelligence and education, added to practical knowledge of details, were essential to complete success.

He admitted there were many excellent farmers with limited education who worked their holdings with profit. But he had never met one of these who did not wish his range of information was wider and who did not envy the neighbors whose schooling gave great and lasting advantages.

Another point made was that the fact of cultivated intelligence was always apparent in the farm generally as well as in the farmhouse and its surroundings.

Education does not lessen the capacity of a man for physical labor. On the contrary, it enables him to use his brain as actively as his hands; and while the latter are using the hoe or handling the plough the former is systematizing in detail other and more complicated work.

Look at a few simple facts. Prussia alone has four higher agricultural colleges with some eighty professorships; she has more than forty lesser schools, all having model farms: she has five special schools for the cultivation of meadows and the scientific studies of methods of irrigation; she has one special school for the teaching of those who desire to reclaim swamp lands; she has two special schools for the

teaching of those who intend to grow industrial nurseries: she has a school for teaching horse shoeing, one for teaching silk raising, one for the raising of bees and one for teaching the cultivating of fish. Besides all these she has twenty special schools for the education of gardeners and fifteen schools for the training of those who are to cultivate the grape.

The example of Prussia has been imitated by the other German states. The little kingdom of Bavaria, scarcely larger than Massachusetts, has 26 agricultural colleges, besides more than 200 agricultural associations. Wurtemburg, still smaller in area, has 16 colleges and 76 associations. Baden, with a population of only a million, has 14 agricultural colleges, besides 4 schools of gardening and forestry. Saxony, with its dense population of two millions, compacted into a space hardly larger than two American counties, has 4 higher colleges and 20 agricultural schools, besides a veterinary college and a department of agriculture with 20 professors at the University of Leipsic. Saxe-Weimer, with a population of no more than 230,000 souls, has 3 agricultural colleges besides an agricultural department with 15 professorships at the University of Jena.

And what has been the result? Simply this, that while in every one of the American states, as is shown by the agricultural reports, the average crop per acre has been steadily growing less and less, the average crop in Germany has been as steadily growing more. In view of these facts, we ought to bow our heads in shame. At least let us cease our contemptible cant about the superiority of our educational facilities.

Cows should be milked with dry hands, and only after the udders have been washed or well brushed.

RIGHTS IN THE ROAD.

If a farm is bound by, on or upon a road, it usually extends to the middle of the roadway. The Farmer owns the soil of half the road, and may use the grass trees, stones, gravel, sand or anything of value to him, either on the land or beneath the surface, subject only to the superior rights of the public to travel over the road, and that of the highway surveyor to use such materials for the repair of the road; and these materials he may cart away and use elsewhere on the road. No other man has a right to feed his cattle there, or cut the grass or trees, much less deposit his wood, old carts, wagons or other thing thereon. (8 Met. 576, 8 Allen, 473, 1 Pa. St., 336.) The owner of a drove of cattle which stops to feed in front of your land, or of a drove of pigs which root up the soil, is responsible to you at law, as much as if they did the same things within the fence. No children have a right to pick up the apples under your trees, although the same stand wholly outside your fence. No private person has a right to cut or lop off the limbs of your trees in order to move his old barn or other buildings along the highway, (4 Cush, 437) and no traveler can hitch his horse to your trees in the sidewalk without being liable, if he gnaws the bark or otherwise injures them (54 Me., 460). If your well stands partly on your land and partly outside the fence, no neighbor can use it except by your permission. Nay more, no man has a right to stand in front of your land and insult you with abusive language without being liable to you for trespassing on your land (11 Barb., 330). He has a right to pass and repass in an orderly and becoming manner; a right to use the road, but not to *abuse* it. But notwithstanding the Farmer owns the soil of the road, even he cannot use it for any purpose which interferes with the use of it

by the public for travel. He cannot put his pig-pen, wagons, wood or other things there, if the Highway Surveyor orders them away as obstructing public travel, if he leaves such things outside his fence, and within the limits of the highway as actually laid out, though some distance from the traveled path, and a traveler runs into them in the night and is injured, the owner is not only liable to him for private damages (15 Conn., 225), but may also be indicted and fined for obstructing a public way. And if he has a fence or wall along the highway he must place it all on his own land, and not half on the road, as in case of division fences between neighbors (4 Gray, 225). But as he owns the soil, if the road is discontinued, or located elsewhere, the land reverts to him, and he may enclose it to the centre and use it as part of his farm.—*Judge Bennett.*

HOPE FOR THE FARMERS.

The time has come with the Southern farmers when they see the necessity of abandoning old methods, and adopting new ones; the introduction of horse reapers, mowers, and plows that will expedite cultivation and economise labor, shows we are in a transition state; preparing to reduce the area of cotton planting, and increase the area of grain, clover, grass and other crops; in short, we are fixing up for diversified farming. This is what I have been recommending to all our farmers for the last fifteen years in all my articles in *The Southern Cultivator*, and other agricultural journals. I am glad to see the change has begun, and in the near future, we will see our Southern farms once more teeming with fine crops of corn, wheat and oats, as well as clover and grass, and fine stock of all kinds of our own raising, making us as we should be, a self-supporting, prosperous set of

farmers. We have served too long a time at making cotton, which has impoverished the farmers and made rich the merchants and cotton kings; let us now turn over a new leaf, and farm for our own good and profit. We have the country, the lands and the climate adapted to the most diversified system of farming of any other country; all needed, is the *will*, to make it so—so let it be so. Agricultural machinery is new to most of our Southern farmers, and especially to the Negro, the laborer we have mostly to rely on; but still there are many of them sufficiently intelligent with a little training to make them use them advantageously under the supervision of the owner. Our young farmers should drive their own reapers and mowers; but with old farmers who have not sons to use them, they are dependent on hirelings, but if possible they should be operated under their supervision, for like all machinery they must be used with judgment and care. But when there is a will, there is a way, and grain and grass crops will soon teach us the right way of using machinery. We don't say to stop growing cotton altogether, we only tell you to plant less cotton, and plant more grain, and sow grass and raise stock, and feed yourselves, and have some to spare to feed the city and village folks; and stop buying all your food supplies from the merchants—become farmers in the true sense of the meaning of the word, and not merely cotton planters, which means, "the hewers of wood, and drawers of water."—*John H. Dent in Southern Cultivator for July.*

To the Editor of the Maryland Farmer.

TENNESSEE NOTES.

DEAR SIR:—I have visited several localities in Tennessee in search of a good fruit growing section. Where the climate was conductive to health, and where a man could get a good home with a little money, I think I have found a place that cannot be too highly recommended as a fruit, stock and tobacco section. I will endeavor in my feeble way to give your readers as correct an idea, as I can, of the lay of land, and the quality of soil. Summertown is situated in Laurence county, twenty-one miles south of Columbia, Tenn., on the line of the Nashville and Florence Railroad. Summertown is located in a beautiful grove, has two hotels, and two stores and good school. It is a noted summer resort, hundreds of people visit these springs during the summer season to drink the pure freestone water that is found here. Laurence county has an altitude ranging from 800 to 1,000 feet above tide water. The surface is level to rolling, to broken. The broken lands are along the streams, and grow fine orchard grass and good grain. The land along the streams are generally well timbered and the principal settlements are to be found there. The level and undulating lands are the great reservoirs from which numerous springs and streams flow. The soil is a mulatto brown, and is underlaid with a red and yellow subsoil. From three to four feet deep the soil is underlaid with a hard pan. This hard pan extends to a great depth, which permits the water to slowly filter through it, giving to these streams a uniform volume of water. Hundreds of fish ponds could be put in free from surface water, and the purity of the water develops a fish superior to anything found in other streams. These ponds could be put in without much expense. As a fruit growing section these highlands can-

MILKING should be done, and milk should be kept only where the surrounding air is pure and free from all objectionable and tainting odors. Milking in a foul-smelling stable or yard imparts to milk an injurious taint.

not be excelled anywhere in the south. Apple trees reach the same result in five years as they do in the north in ten years, and retain a greater age. There are apple trees in this county sixty years old and still bearing. Apple trees will bear some when three years old, and will pay a handsome profit at five. The Red Mountain Limber Twig and the Bendavis will pay an immense profit. Apples handled right are finer, higher colored and better flavored than those raised in the north. Mr. Rainey has set out one hundred acres in an apple orchard near Summertown. He says that this is a better fruit section for apples than around Chattanooga, where fruit lands are selling from \$40 to \$75 per acre. Mr. Marsh has some of the finest peach and apple trees I ever saw for their age, and bore some the second year.

The best soil for all kind of fruit is the high table lands and the light colored soil. Peaches along the streams are sometimes killed by the frost, are a pretty sure crop on the high lands. Pears and plums are larger and finer flavored than those raised in other sections. They can be had from June until October. Strawberries grow fine and come in April. All the small varieties of fruit do well and are found in abundance. Blackberries in the woods by the hundred bushels—this would be a splended place to start a cannery. Our grapes cannot be excelled in quality. Parties wishing to engage in a vineyard should visit this section and see for themselves. There is no doubt in my mind that this will be the fruit belt of the highland rim. One hundred miles south of this place apples cannot be successfully raised; while in Iowa, Illinois, Indiana and Ohio the apple trees have been killed by the cold winters. Situated as we are, between the two, fruit raising cannot be anything else but profitable. Also the mineral resources are rapidly being developed in this and adjoining counties.

Several furnaces are now being built. When this industry is fully developed this will be the richest part of the state. This fact should not be overlooked by parties seeking homes in the south. Vegetables of all kind do well. Irish potatoes manured, yield as well as they do in the north. Sweet potatoes make an immense yield, and are superior in quality to those raised in the north. Corn yields a fair crop, by turning under clover and stock peas. Stock peas are the cheapest and surest fertilizer we have, as they will grow on all kind of soil run down. As a tobacco section this country is fine, as it grows a good quality of tobacco and makes a liberal yield per acre. In fact this is a fruit, tobacco, stock and vegetable country. Thousands of acres can be had along the railroad line at a nominal figure. Improved lands can be had from \$5 to \$10 per acre; unimproved lands from \$2 to \$4 per acre, adapted to fruit, tobacco and stock.

In closing this letter, I wish to offer this advise to all whose means are small; if you have good homes, keep them, at least do not part with them until you are sure beyond a doubt you will better your condition by doing so.

Respectfully yours,
J. C. CRUMPTON.

Summertown, Tenn.

[ED.—We publish the above letter as it gives an interesting account of this location of country; but we have no acquaintance with either the writer or the locality referred to.

Cows should not be allowed to drink stagnant, impure water, nor to eat cleanings from horse stables, leeks, turnip tops, nor anything that would give the milk an offensive taste.

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THE VALUE OF FRUIT AS DIET.

We have in "Bubbles" by an Old Man, set forth the pleasant picture of two German tailors dining on plums and bread; and yet withal managing to make a very satisfactory and cheerful meal. So we also find does the Italian, who lives on macaroni; so does the Irish laborer, who lives on potatoes; so does the French peasant, who eats little but bread; so also with the millions, who in India subsist on rice; in Africa, on dates, in the South Sea Islands and West Indies, on the breadtree and on yams. Yet, in the face of unanswerable arguments, above all we find the English nation seeks to maintain that vegetable diet is a low diet, and that molars, or teeth for grinding the roots and fruits of the earth, must have been given to mankind in general, and our own nation in particular—by mistake! But, above all and beyond all, one in fact is clear, and it is this—that certain diseases which were looked upon as almost incurable have disappeared slowly but surely; and that this is the result solely of the increased growth and consumption of fruits and vegetables is not for a moment open to doubt. At one time leprosy required something like 19,000 hospitals in Europe, and, although it has lingered longest in the Faroe Islands and Iceland, yet in our country it may be said to have become extinct, being fortunately unknown. Reliable authorities assert that this change is due simply to the increased use of fruits and vegetables as an article of diet. Yet, for all this, we have as a nation neglected these two important branches of the greatest of all our industries; and, whether for pleasure or for profit, the charge remains the same. The home grower is, to a certain extent, totally ignorant of the signs of the times. In conclusion, we simply add we are not writing from a vegetarian, but from a practical point of view. The cul-

ture of choice fruit especially has become a neglected industry; and, although certain profession "authorities" have stated that an extensive system of fruit and vegetable culture would prove financially a failure, still it is a fact that, although at the present time we receive more tons than we did hundredweights, the prices for the past fifty years, comparatively speaking, remain the same.—*Covent Garden Gazette*,—London.

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FARM CHAT.

With the increase of poultry that the past few years has witnessed it might almost appear that there would be an overproduction which would be disastrous to the poultry business, but a careful consideration of this subject does not point to any immediate danger in that direction. The poultry business is not likely to be overdone so long as there is an active demand for eggs that home production is unable to supply. Importation statistics go to show that millions of dozens of eggs find a market in this country which ought in justice to the country to be produced at home. There is no good reason why thousands of dollars should go out of this country to foreign nations for the purchase of a product that can easily be supplied at home. For this reason there is yet a great demand for poultry—a demand which will and ought to continue so long as the home demand for eggs remains unsupplied.

Recent advices from London show that Russian dairy products have made their appearance on the English market, and that the prospects are favorable for a large and increasing trade in butter and cheese with Russia. There are fine dairy sections in the Baltic provinces, heretofore neglected; which can be turned to good account now that a profitable foreign outlet is presented. This supply may not

affect the prices much this season, but it is likely to in the future. These facts go to show that the interest of the American dairymen lies in the judicious development of our home markets.

As tomato vines begin to branch out the side runners should be cut off, not over three main vines be left to each plant, and after they begin to bear, cut them back. If, now, these three are trained on supports to get the sun and air, you will be surprised if you never saw it tried how it hastens the process of ripening.

THE FENCING OF FARMERS.

\$30,624 TO FENCE AGAINST NINE COWS
AND TWO HORSES.

At the last meeting of the Still Pond Agricultural Club, Kent county, a committee appointed to ascertain the number of stock running the roads, within a territory then bounded, reported but nine cows and two horses, and most of these were owned by parties holding land and able to keep them. The club then figured out the following result:

Miles of road within said limits, 29; number of panels of fence required to fence these roads on both sides, 30,624; cost at one dollar per panel, \$30,624.

So it appears it costs this neat sum to fence against these nine cows and two horses, or \$2,784 to fence against one of these animals. This showing is certainly food for thought. The Farmer in the purchase of his land buys to the middle of the road and pays taxes on it. Is it not a crying shame that he should be compelled, an such an enormous cost to fence against a few cows that trespass on his own land? There is no reason or justice in this state of things, and it is only a question of time as to when all these fences will be removed and each party owning an animal will be

compelled to keep it from trespassing on his neighbor. The worthy poor should be cared for in some other way. The Farmer will be as liberal as any other class in alms-giving, but should not burthen himself in this unwarranted and unreasonable manner. The law only requires him to confine his own stock on his own premises. This is enough, and this is all he will do in the near future. The injustice is too glaring to be borne with much longer; the tax is too heavy for his purse. A permanent pasture will provide for the necessities of his own stock and he can dispense with nine-tenths of the cost of fencing. The following resolution was then unanimously passed:

Resolved, That it is the sense of this meeting that it would be economical to the Farmer to dispense with all fencing, except what may be necessary to keep his own stock in place or from trespassing.—*Easton Ledger*.

IMPROVING FRUITS WITH REFERENCE TO HARDINESS.

It seems to me that there are only two possible points in view. You must begin with first-class fruits and increase their hardiness, or else start out with hardy fruits and improve them. The lines may not be drawn as distinctly as above stated, but the division serves as a basis of discussion and experiment. If you have a first-class variety of fruit that is not able to bear the severity of the climate of locality, there is little use of trying to toughen it by attempting to grow it. The fact that it kills precludes the possibility of its becoming hardy. If a disease is invariably fatal to a certain class of men or a nation, it would be folly to expose such people to the disease, with a hope of establishing immunity through heredity. There is a great deal in the method of progressive approach, as the logicians call it. Using

the same illustration, it is a well established fact that races of men have become hardened to many things that will kill off, with much certainty, men whose ancestors have not been called upon to resist such unfavorable conditions in gradual increasing severity. In other words, it is a law of the individual to some extent, and of the species or race to a greater degree, that living things can gradually become accustomed to circumstances and conditions that would prove fatal if suddenly experienced. For example, if I am not misinformed, there are fruits growing in Southern Iowa that will not at present thrive in the northern part of the State. It is doubtless true that as time goes on these plants will gradually acquire a hardiness which will permit of their successful culture in Northern Iowa. In this way the good fruits may become acclimatized in regions where at first they could not grow. It seems to me that nurserymen are not much given to doing this work in this way. They send a list of fruits into a severe region and test the climate and the trees in a wholesale and unfair way. In this discussion we must not overlook the fact that a good deal is known concerning the effect of climate upon species. For example, the seeds of a tree growing in an exposed mountainous place may produce plants that will bear a given climate, while other seeds from a tree of the same species growing in a subtropical climate will produce plants that readily succumb. Plants from one side of a mountain may correspond in outward characteristics to others of the same species on the opposite side of the mountain range, but differ greatly in their hardiness. The seeds of the one are offsprings of hardy plants, and produce plants of great hardiness, while the others are from parents that have not been severely tested, and therefore produce tender plants. The short of it is this: Develop the hardiness

of good sorts by continually subjecting them to less severity than they can withstand. Do not weaken them by undue exposure, but strengthen them by a proper amount. On the other hand it may be best in some cases to bring in species or varieties that are well able to withdraw the severest tests of an almost arctic winter, and after having once established orchards or fruit gardens of such sorts, begin the improvement of some by the various methods as laid down in the works on the subject, and existing in the minds of intelligent fruit growers.

The importance of hardiness is only appreciated by those who live in regions where the climate is severe, and where as yet fruit trees are uncertain property. The orchard may do well for a few years, after which a test season comes and the trees are killed. In such places it is the ironclad varieties or none. These must be introduced from an equally severe climate, when they have become hardy by the slow process of natural selection. Whichever way the work is done it is slow. The question of time most annoys the American.—*Dr. B. D. Halsted, in Michigan Horticulturist.*

AT a meeting of the Northwestern Plow and Cultivator Association, held at the Palmer House, Chicago, May 3rd and 4th, of which all the leading manufacturers of steel plows in the northwest are members, and were present, it was unanimously

RESOLVED, That in view of the large advance in the cost of material, which advance amounts to from thirty to sixty-five per cent. on iron and steel, an advance in the selling price of all manufactured goods is necessary, and that an advance of 10 per cent. in the net price of walking plows for fall trade be made at once, and the necessary advance on the general list for spring trade be reported to the Association

by a committee, at a meeting to be held in July.

The members of the Association are aware that the usual margin on goods sold at retail is not an adequate compensation for the capital employed and expenses incurred, and would strongly urge upon all Implement Dealers such an advance in price of plows at retail as shall cover the advanced cost to them of the goods, and give them a fair compensation for the labor and expense incurred in placing them on the market.

The Association will meet again at the Palmer House, Chicago, Wednesday, July 6th.—*The New Farm.*

THE YOUNG FARMERS' CLUB.

I am constrained to say a word in hearty commendation of the Young Farmers' Club of the Southern States. I am very glad that as an organization it is non-political. I have never believed an effective organization of the Farmers of this country for political purposes to be possible or desirable; but an organization devoted solely to the improvement of its members, as Farmers, may be a success and accomplish great good, as the Young Farmers' Club has shown. Farmers should take an active and intelligent part in all political matters; but in this absolute individual freedom should be maintained. And in any organization of Farmers for any purpose, the greatest good will be accomplished by putting upon each member that responsibility which comes of individual freedom and effort. Every member of the Young Farmers' Club is to make himself an example in his neighborhood; he is to lead. Young men have the enthusiasm and enterprise to undertake such a work. There are exceptions, but in general it is the old who calculate and wait, while the young dare and do. Any stimulus ap-

plied to young Farmers must produce a greater result than if brought to bear on their elders—not only because they will the more readily respond, but because they will remain longer upon the field of action. Wisely designed and happily constituted, your Young Farmers' Club must have an influence for good that cannot be measured.—JOHN M. STAHL in *Southern Cultivator* for July.

THE London *Dairymen* gives the following directions for making cream-cheese, a variety very popular in England. On the plans given, any villager or Farmer's wife, can make the very finest cheese for table use, whenever so inclined. Those not having the cream can buy it: "Take a quart of cream, and, if not desired to be very rich, add thereto one pint of new milk; warm it in hot water till it is about the heat of milk from the cow, add a tablespoonful of rennet; let it stand till thick; then break slightly with a spoon, and place it in the frame in which you have previously put a fine canvas cloth; press it lightly with a weight; let it stand a few hours, then put a finer cloth in the frame, and shift the cheese into it. Sprinkle a little salt over the cloth. It will be fit for use in a day or two. To make a rich cream-cheese without rennet, take any quantity of cream and put it into a wet cloth, tie it up and hang it in a cool place for seven or eight days. Then take it from the cloth and put it into a mould in another cloth, with a weight upon it, for two or three days longer. Turn twice a day, and it will be fit for use.

ALL milk vessels should be thoroughly cleansed; first being well washed, then scalded with boiling water, and afterwards sufficiently aired to keep them perfectly sweet.

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Live-Stock Register.

KING OF PERCHE. 4975 (6738.)

Our engraving this month is a sketch from life by Burk of the sensational stallion King of Perche, owned by W. L. Ellwood, De Kalb, Ill. The editor of *The Breeder's Gazette* was instructed to make an offer of \$4,000 cash for this horse by a prominent breeder who desired him for his own use, and that upon the refusal of this offer another thousand was added to it, which was also refused. He is a magnificent black, rather below the average size of imported Percherons, but fully up to the average as bred in France, and was a prize-winner at the great Concours Hippique Percheronne in France last year. He was bred by M. Brault, Gemagues, Orne, France. Foaled 1882. King of Perche won first prize at the great Percheron show in Chicago last September in the class of light Percherons four years old or over; and he is one of the leading sires used in the breeding stud of Mr. Ellwood, which is now one of the very largest establishments of the kind in the world.

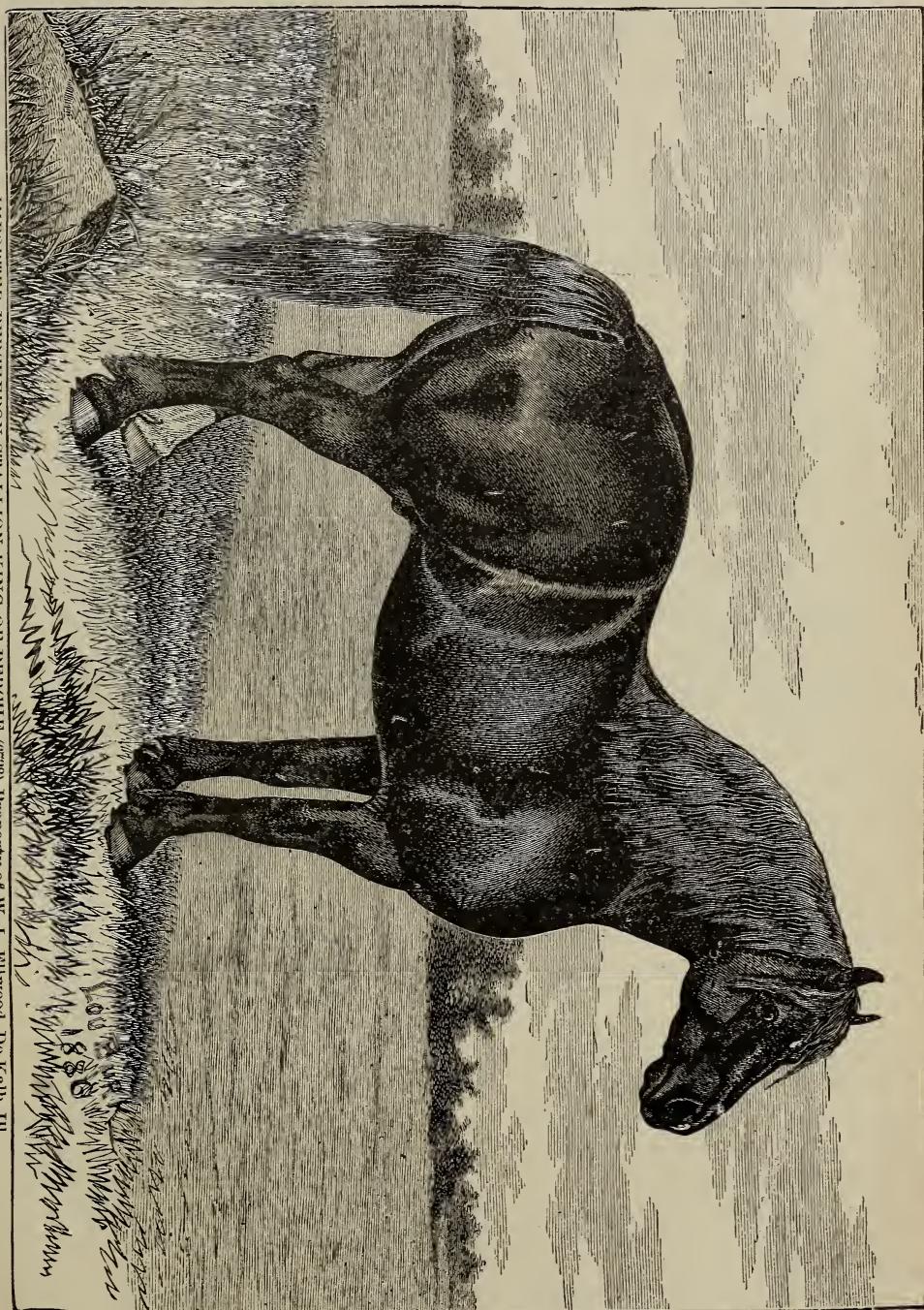
ABORTION IN COWS.

A correspondent of the London *Live Stock Journal* says:

"Some eighteen months since a letter appeared in the *Journal d' Agriculture Pratique* of France from a dairy farmer, who complained of the ravages of abortion among his cows. He stated that the health of his cattle appeared to be perfect, that they were giving an average of 1,800 litres per head, their food was perfect and abundant in quantity, the stables were well aerated, continually lime-washed, and every care in their management was rigorously

observed. He had consulted numbers of veterinary surgeons, who found that the conditions of hygiene were properly observed, and they could give no reason for the epidemic in question. In the year 1879-80 from thirty fourteen aborted. In 1881 there were six abortions among forty cows. In 1881-82 four abortions, and in 1882-83 there were nine cases of abortion in six weeks. During the season in which the letter was written, after the first cases had occurred, and toward the 25th of July, the cows were put morning and evening on the pastures in the hope that the change of air would arrest the complaint, but although everything was done that human ingenuity could devise, and though the cowsheds were treated as if they were infected places the misfortunes continued. The cows were lodged in two stables, about 250 yards apart, and without any communication between them. It is a singular fact that the evil always commenced in the same stable, and a day or two afterward was followed by its appearance in a second stable. The cows usually aborted between five and eight months, sometimes producing living calves. The loss was consequently considerable, for it was not only the loss of the calf, but the cows frequently became barren and were difficult to fatten.

"The writer appealed to the farmers of France for advice, and received a large number of letters. Among them were two from different parts of the country, in which he was recommended to introduce a billy goat into the stables, and, struck by the coincidence in the experience of the writers, he determined to try the remedy. The result is now published. One goat was first of all purchased and



IMPORTED PERCHERON STALLION KING OF PERCHE (678) Property of W. L. Ellwood, De Kalb, Ill.

placed in one stable, and in due course the epidemic entirely disappeared; although it still continued in the other stable. A second goat was then purchased, and, strange to say, there have been no cases of abortion since. The writer says he only speaks of an experience of nineteen months, and that scientific men will probably smile at, or ridicule, the course he adopted; but the fact remains that since the introduction of the goats there has been no more loss from abortion upon the farm. He cites a case of a drayman in a large way of business at Bordeaux who cured a disastrous epidemic of colic, which killed several of his horses, by the introduction of a goat into his stables.

"The use of the goat among stock is, of course, not new to English breeders. These particulars, however, are given for what they are worth."

RELIEVING CHOKED CATTLE.

The accompanying engraving represents the instruments employed for relieving choked cattle, as recommended by Prof. Simonds, of the Royal Veterinary College of England.

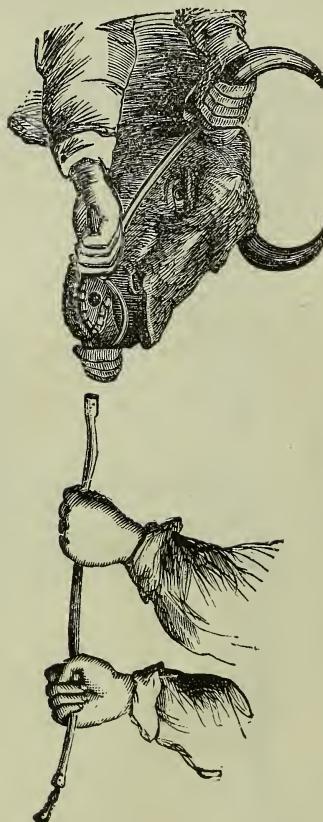
"In cases of choking," says Prof. Simonds, "the amount of danger may mostly be calculated by the abdominal distension, for death results from the lungs being unable to expand in consequence of the pressure of the rumen against the diaphragm."

He says: "In many cases prior to unchoking the patient, the gaseous compounds which are disengaged from the ingesta and distend the rumen, must be given an exit to, by puncturing the rumen, to prevent suffocation."

The instrument for unchoking, as shown in the sketch, consists of a probang and a gag; the latter is to be placed in the mouth as shown. Two assistants are required. One of these should be placed

on either side of the animal, holding the handle of the gag, which protrudes from the side of the mouth, with one hand, and the opposite horn with the other. They must also keep the head elevated so as to bring it as near as possible in a straight line with the neck. We give Prof. Simonds's instructions in operation as follows:

"The probang being held as represented, is to be passed through the opening in the gag and carried carefully over the dorsum



of the tongue into the pharynx, and from thence pushed inwards until it reaches the obstruction. Sufficient and well-regulated pressure is now to be made until the obstruction yields, when it is to be driven by the instrument into the rumen. Care should always be taken to *propel the root into the first stomach*, and we should

never rely on the power of the esophagus to do this after we have succeeded in removing it from its original situation. Want of attention to this simple rule has often protracted suffering to the animal, and not unfrequently death. The probangs in ordinary use are seldom of sufficient length, nor are the bulbs with which they are tipped of a proper shape. The instrument should not be less than six and a half feet long, and the bulbs should be large and slightly cup-shaped."

To Break Horses from Pulling at the Halter.

Get a strong half-inch cord twenty-two feet in length; put the centre under the tail like a crupper; twist them a few times as you bring them forward over the back; pass forward on each side of the body, then



pass them forward through the halter below the jaw. Tie firmly to a tree, post, or stall, and excite the animal by any means that will cause him to pull, until the habit is overcome. You may even whip across the nose keenly until there is per-

fect submission, which will not require long. Hitch in this way for a few days, or so long as there is any predisposition to pull on the halter.

THE SOILING OF DAIRY STOCK.

In a paper read before a recent meeting of the Liverpool (England) Veterinary association on the above subject the writer sums up the advantages of the soiling system in the following condensed form:

1. Increased production of milk.
2. Superior quality of milk.
3. Better condition of animals as compared with those grazed.
4. Economy in consumption of food.
5. Great saving of land.
6. Waste land now occupied by fences, materially dispensed with.
7. Increase in the quantity and improvement in the quality of manure.
8. Value of land produce increased.
9. Protection afforded stock against various forms of disease, infectious and non infectious, and parasitic invasion.

He then enlarges upon each of the above heads to prove the correctness of the positions, but space will not permit our publishing his article entire. That upon the first head, briefly summarized, is to the effect that in pasturage the cow expends a considerable amount of physical energy in traveling over the pasture in search of food, when if the food was brought to her she would only take such exercise as the calls of nature demand and would spend the rest of the time in quiet rumination, and the energies otherwise taxed in gathering her food would be expended in the secretion of milk. He estimates that the production of a herd of cows under soiling is one-third greater than if on pasture. He claims that the same conditions which increase the quantity of milk also improve its quality.

Soiling is being more and more adopted by American dairymen, especially where lands have become valuable.

CAPONIZING.

There is one thing certain, and that is, that sooner or later the American poultry raiser will have to caponize his young cockerels, or no sale, and the sooner poultrymen and farmers realize this fact, the sooner and better they will be prepared to supply nice capons.

It costs very little now for a set of instruments to perform the work, and any caponizer can teach a person to perform the work perfectly in a very short time. By the time he begins on his sixth subject, he will go at it with perfect confidence in his own ability to perform the work quickly and properly. Let me here urge upon the reader who has never caponized, the importance of his learning to do so at once, as he is sure to double the value of every cockerel he has to sell for market. He need have no fear but that he will be successful. If there was no other reason, the pecuniary results of caponizing should be sufficient cause for every farmer and poultry raiser to adopt the art at once, and by so doing, add largely to their yearly revenue, with adding but very little to their expenses.

Is not the fact that his cockerel will weigh eight or ten pounds when grown, after being caponized, and be worth from twenty-five to thirty cents a pound sufficient inducement for him to at least try his hand at caponizing, to say nothing of the quality of the meat being vastly improved for his own eating, and avoiding the inconvenience of having a large lot of cockerels around to eat their heads off, and bother his pullets and hens, annoying everyone with their constant crowing, and fighting with each other? One good lively row between two cockerels causes

each of them more pain than it would to caponize them half a dozen times, and how many fights do they have? So the performance of the act is not cruelty, but on the other hand prevents much cruelty of the most brutal kind, and causes the fowl to lead a quiet, peaceful life, leaving him to grow large and fat.

After being caponized, they are inclined to be very quiet in their disposition, are not running all over the farm, working their flesh off as fast as it can be put on, running after every hen they see, preventing her from attending to business, fighting with others until badly disfigured, disturbing the family by constant crowing from sunrise to sunrise, and finally they have to be sold in the market for twelve or fifteen cents a pound, and weighing perhaps four or five pounds. Think this all over, and see if you do not conclude that it is best to do a little caponizing.—*Ex.*

CHEESE AND BUTTER.

METHODS OF DEALING WITH MILK, CURING AND SALTING.

Have the milk well aired when fresh drawn from the cow and not cooled to a lower temperature than the air surrounding it. All pails, milk cans, receiving can and milk vat must be thoroughly washed and scalded, likewise all utensils used in the stirring of the milk. Use perfectly pure, sweet flavored rennet, thoroughly well incorporated or diffused in the milk; beat up the curd evenly to 98 degrees; expel all surplus whey from the curd by hand stirring at the first show of lactic acid on hot iron; keep the heat of the curd to 95 degrees when grinding, at 90 degrees when salting, at 80 degrees when whooping and at 70 degrees after it is pressed. Use the thermometer to test the temperature of the curd (the hand will not do to tell accurately enough), air the

curd well before and after salting and thoroughly and uniformly apply the salt. A coarse sieve is the best to distribute salt on the curd. Have hoops, followers and pressboards well washed and scalded, sweet and clean. Dress cheese with pure flavored whey oil and keep the curing room at an even temperature of 65 degrees to 70 degrees and box up the cheese, closely fitting the cover on to touch the cheese at three or four weeks old.

To make good butter, wash out the buttermilk with a cold but weak brine. As soon as this is done the brine is drawn off and the butter, in granular form, left in the churn ten, fifteen or twenty minutes to drain. Then an indefinite quantity of salt is spread over the butter—it may be an ounce to the pound or more, certainly all that can be dissolved—and is well mixed with the butter by stirring with a paddle. Stirring the butter liberates so much of the brine it still contains as to make it easy to distribute the salt evenly through the mass, and to carry to the bottom of the churn any excess of salt above what can be dissolved, leaving always in the butter just a saturated brine for seasoning it. The butter is then laid upon a butter-worker and pressed into a solid condition and so much of the brine as desired forced out as before described. This method is more economical than the others, as it wastes less salt and makes the salting as uniform as it can be. There is never too little nor too much.—*Ex.*

TAKE as good care of your team these hot days as you do of yourself. Feed them before you feed yourself. Water them oftener than three times a day, morning, noon and night. Wash off their sweaty breasts and backs, curry them carefully and feed them well.

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HOW TO FEED BUTTERMILK TO HOGS.

Buttermilk is a highly nitrogenous food, containing about one part of nitrogen to two of carbon. The proportion of nitrogen is at least twice as great as it need be and as it should be to be profitable—that is, to feed without material waste. Cornmeal, on the other hand, is highly carbonaceous, as it should be, just as the buttermilk is twice too nitrogenous. Now a due mixture of both these two foods will probably balance the ration and secure the greatest economy, both in preventing waste and in providing the greatest amount of nutrition. In feeding pigs, to begin with, Prof. Henry of the Worcester Agricultural Experiment Station, recommends one pound of meal to each gallon of buttermilk. This leaves the rations still strong in the nitrogenous element necessary to promote growth. As the pigs advance in size, and fat rather than growth and muscle is desired, more cornmeal may be added. This will make the food more carbonaceous and cause the hogs to lay on more fat.

In some experiments made at the Massachusetts Agricultural Experiment Station, counting cornmeal worth \$28 a ton and buttermilk at 16 cents per 100 pound, it was found that a pound of pork cost 46 cents. At first, 12 ounces of cornmeal were added to each gallon of buttermilk, on another occasion, and the quantity of meal gradually increased, closing with 5 3-4 pounds cornmeal and three gallons of buttermilk to each hog. Reckoning on the same basis, the cost of a pound of pork was 5.73 cents. This was in winter, the difference in the season accounting for most of the difference in cost. In the first case it took 2.4 pounds of dry matter to make a pound of pork; in the second, 3.67 pounds of dry matter to a pound of pork.—*U. S. Dairyman.*

THE CHESTNUT TREE.

The network of railways which spread over our country in all directions, call every year for immense numbers of railroad ties. There are many kinds of wood used for this purpose, varying according to locality. In Massachusetts the chesnut is very largely used, first, because it is found very abundant in many parts of the State, and second, because the wood is hard and holds firmly the spikes that fasten the rails to them, and third, because it decays less rapidly than many other kinds of wood.

Thus far no particular efforts have been made to encourage the growth of the chestnut, so the supply has been drawn from the natural production of the forest. As the chestnut is a very rapid growing tree, and as it is not very particular as to the soil and location, it can very easily be grown over a wide extent of territory, and wherever grown, it can be very readily turned into cash, and the stump from which it is cut will immediately send up new shoots, which will rapidly grow and soon cover the land. Twenty or twenty-five years is sufficient to grow the chestnut large enough for railroad ties, during which time no expense is incurred by the owner, except taxes. One of the advantages which the chestnut possesses over the white pine is, it readily produces the second crop from the same root, while the pine must be renewed from the seed every time. The advantage of having a large root to force the young second crop is very great needed, for while the root of a seedling will force the first season a growth of not more than six inches, the growth forced by an old root, will often be six feet.

The growing of the chestnut for railroad ties is especially worthy of the attention of the farmers of the hill towns. There are other uses for which the chest-

nut wood is adapted, and for which it brings good prices. It is largely used as hard wood lumber for finishing houses, vessels and railway cars; for those purposes it is in continued demand and brings a high price.

A little effort on the part of those who have chestnut forests, would enable them to increase the acreage devoted to the growth of this tree. The chestnut is easily grown from the seed, which should be planted in the autumn, just under the surface. If planted for railroad ties they can be planted quite thick, thus causing them to run up tall and hold their size well.—*Massachusetts Ploughman.*

DEER CREEK FARMERS' CLUB.

THE PROTECTION OF BIRDS.

The regular meeting of the Deer Creek Farmers' Club was held last Saturday, at the residence of Mr. George E. Silver. Mr. R. Harris Archer was called to the chair; Mr. James W. Hanna, Secretary.

The subject announced for discussion was the preservation of insectivorous birds and the bounty on hawk heads.

Geo. E. Silver spoke of the injury to crops by insects and said that if we could protect the birds we might save our crops. Some birds, the English sparrow, for instance, are injurious to crops and those we ought to get rid of. The blackbirds had pulled up a great deal of his last planting of sugar corn. He thought this might be avoided by scattering corn for them in the rows. Hawks are an expense to the country and destructive to poultry yards, but they are said to destroy field mice, and if so we might afford to let them feed on a little poultry. The complaint of ravages by insects this year is wide-spread and no doubt it would be beneficial to encourage the protection of birds.

Wm. Munnikhuyzen said that all the

birds we had previous to the introduction of the English sparrows, lived on insects. These sparrows do not drive the other birds away. He had shot the English sparrows and driven them away from his place, and now the common sparrows, pewets, &c., have returned and build their nests. He was opposed to paying a bounty for hawk heads, for the kind mostly killed do no harm. We are paying half a dollar a piece for killing sparrow-hawks which feed almost exclusively on mice and other vermin. Any body would kill a chicken hawk, which is the destructive kind, even if no bounty were offered for it.

R. John Rogers was opposed to killing any birds except English sparrows. Besides being pugnacious little fellows, fighting all other birds, they get into granaries and eat a great quantity of grain. A man is justified in killing a hawk which is attacking his poultry, but the country should not pay him half a dollar for doing it. Hawks destroy a great many mice, and since the destruction of hawks has become so general the field mice have multiplied greatly and he had never before seen so much grass destroyed by them.

James W. Hanna was in favor of taking off the bounty on hawk heads. If they come to your chicken roosts take a gun and shoot them. Indeed, he was opposed to killing birds of any kind, even English sparrows. Crows and blackbirds pull up a little corn, but they also pick up a great many insects. They had followed him, this spring, while he was working corn and gathered up quantities of them.

James Lee thought it would be better to repeal the bounty on hawks and put it on English sparrows. In some places one cent apiece is paid for them, not less than 25 being received at a time. The country is paying out now about \$600 a year for hawk heads. This sum would pay for 60,000 sparrows at a cent apiece.

Benjamin Silver, Jr.. was opposed to waging war on birds, except for useful purposes. All birds do us good. A hawk may steal a chicken or two, occasionally, but at other times he is killing something else that might be injurious.

Johns H. Janney said English sparrows had been killed by the hundreds and opened and no insects have ever been found in them. They are a great pest. They eat the grapes and strawberries and attack other birds. He was opposed to the bounty on hawks. If confined to the hen-hawk it might not be so objectionable. We are not only taxing ourselves by it but destroying our friends. When English sparrows were first brought to this country they were protected by law; now in New York a fine is imposed upon any one who feeds them even a crum of bread.

John Moores said he was down on chicken hawks, and it would be a benefit if they could be exterminated. He had lost from 50 to 100 chickens and turkeys in a year from hawks. They also eat the young birds, which do us a great deal of good. The chicken hawk does not take the trouble to catch mice, but might take a rabbit occasionally. He was in favor of reducing the bounty to 25 cents. Partridges one of the most useful birds we have, and they ought to be protected by law for a few years. Besides being insectivorous they afford fine sport in hunting. Many years ago the little sparrow hawk was plentiful. It was an industrious mice-hunter and destroyed no chickens. Now it is scarce. He believed skunks, weasels, minks and foxes do more than hawks to destroy field mice. He was disposed to protect the fox, which is a friend to the farmer.

H. Spalding thought all birds except chicken hawks and English sparrows should be protected. The latter are a nuisance.

Dennis Spalding was in favor of modi-

fying the hawk law so as to offer a bounty only on such hawks as are destructive to poultry. English sparrows are pests. A good way to destroy them is to put out poisoned food in winter, when other birds are not about.

Geo. H. Gorrell thought blackbirds and English sparrows do more damage than hawks. There ought to be a small bounty on them to encourage their destruction. He thought there ought to be a bounty of a dollar a head on foxes.

R. Harris Archer said in his opinion there is an equilibrium in nature which cannot be destroyed without loss and damage in some other direction. If we kill all the foxes we destroy this equilibrium and have something worse—more rats and mice, &c.

Among others present were Messrs Wm. H. Bayless, Turnbull Murdoch and Harry Hughes, of Baltimore, and S. Matthews Lee.

The next meeting of the club will be on July 30th, at Mr. Johns H. Janney's. The question to be then discussed is: "Our Road, System; how can it be improved?"

To the Editor of the Maryland Farmer.

NATURE'S METHODS.

The failure of the fruit crop the present season in this section of Maryland is certainly a serious one to our Farmers, as so many have much of their land in fruit; and the wheat crop, although a fair one, does not pay at the present low prices of grain. Some are trying trucking, and have planted large patches of tomatoes, but the demand for these will not equal the peach demand as they can be raised in a few weeks from the seed, and in sections where the peach will not thrive. In the development of plant life I find few Farmers have an idea of what a small percentage of mineral matter is necessary in the growth of vegetable matter. If the

manumoth trees of California were burnt to ashes there would be a very small pile of them, and yet it would represent all the material taken from mother earth. Water and air filling up the vast bulk of the tree; so it can be said of fruit, vegetables, grain and every thing that grows; yet Farmers continue to buy vast quantities of mineral matter, i. e., fixed immovable matter, instead of watching closely the importance of the movable ones that supply the main elements of plant food which are found in the falling rains, condensing dews and circulating air. The question then is, how are they to be secured? as we know they are not supplied by purchased fertilizers. We know that in a stiff compact mass of clay, or sand and clay, nothing of a quick growing nature like the peach, corn, tobacco, cotton, vegetables, &c., will grow, even with a large supply of material usually found in fertilizers, such as sulphur, phosphorus, potash, magnesia, lime and sometimes a full supply of sand, shell, dust, &c.; all good in their place, and when absent must be supplied by the hand of man. Very different with the bulk of plant food. They are self moving and constantly being supplied to plants day and night, rain or sunshine, cold or warm, calm or stormy, they are ever ready for their work; but to secure their co-operation along with the fixed or mineral matter there must be a porous, light, absorbing condition of the soil, so that the air, falling rains and dews can reach the roots and there, by the great unknown chemical action, be transformed into soluble organized sap holding in solution the little mineral matter found in the dried sap as is found in starch, sugar, woody matter, cotton, tobacco and every thing of a vegetable nature, after the leaves have performed their part by their large surface in evaporating the surplus water that was necessary to hold the sap in solution to reach the top leaves which are always the

largest and rankest growth because there the evaporation is greater and hence more organized matter. It is true science teaches us that we need no carbonic acid in the soil, that during sunlight the leaves draw in carbonic acid, steal the carbon, send the oxygen adrift, pass the carbon to the water and sugar, starch, woody matter, cotton fibre, tobacco, gum, oil, resins, the sweet oil of roses or the offensive skunk cabbage, or the sweet cane or bitter guassica, the nourishing grain, or the poisonous strichnine, all come through the leaves. After many years of attention to the growth of plants and watching their development from the seed to woody matter, and the effect of a non-porous stiff soil compared with a dark porous one full of humus and other organic compounds that are constantly passing to carbonic acid and water during the growing season. I would say that the old story of the leaves supplying all the carbon in a tree loaded with fruit, in the cane filled with sugar, or in the potato swelled with starch, is all bosh, not proven by the facts I have seen illustrated every day of the growing season, and can present a hundred cases looking to the fact of the roots being the agents by which carbonic acid and water are transformed into sugar and starch, and I mention these as parents of all vegetable matter. If what I firmly think is the fact the importance of a full supply of the elements alluded to must reach the roots, and there is no other source to look for them except in the air as the starting point, and the up and down motion of the water, rain drops and vapor, wash the gases (carbonic acid and ammonia) out of the air and a porous soil, gives them a quick passage to the roots, and to secure such a soil and mechanical condition to enable this supply of plant food to reach the right point and there be held until the roots are done with it must be deferred to my next paper, as the limit

of this already fills the space you allow me.

A. P. SHARP.

ROCK HALL, KENT CO., MD.

To the Editor of the Maryland Farmer.

SEVERAL TOPICS — YOUNG FARMERS.

There are scarcely any matters connected with farming that the average Farmer does not pretty well understand, and hardly any important fact that he does not know; but the mischief of it is, he either forgets or has not the energy and method to practise the best that he knows; hence, one great use and benefit of articles in the Agricultural Magazines, is to refresh their memories and to stir them up to ambition for practice of better methods and achievements in their noble calling and to invite them to do the best they can.

Every acre of land is so much capital—if it be worth \$100 it is so much capital; the more it can be made profitably to produce the more interest is thereby obtained from it. If the amount of labor and manure that is usually applied to five acres of land be applied to only three acres, and the same amount of produce be secured from the three as from the five acres, two-fifths of the capital is saved; or rather nearly double amount of interest, on the capital invested, is realized. Now this is no new or uncommon fact, nor one that every farmer does not know; but do farmers generally realize and act upon it? The writer of this has frequently raised 500 bushels of good potatoes from one acre of ground, at a cost of less than 30 cents a bushel, including interest on price of land; and it was much less labor and trouble to fight the bugs, than to fight them off of two acres, to get the same quantity of potatoes. So that better working and more reasonable treatment of less land to secure larger field is the more wise

and profitable plan, which all farmers know; but do they all as certainly practise it? Stir up your pure minds to remembrance!

So with cows and sheep; if better cared for and fed they will give larger yield of fleece and milk, and will therefore give higher interest on the capital invested, besides affording more pleasure and honor, as is also the case with larger products from the fields. And the same will hold true with all the usual operations of the farmer, dairyman and stock raiser. It is safe to say, that all the labor and manure that can be profitably applied to land, is the true, reasonable method.

In early days—New York State—it was the custom of best farmers to grow from one to five acres of sunflowers, principally for horse feed, and good also for poultry; but the best results were secured by feeding it to horses, particularly in autumn, winter and spring; from one-half to one pint a day to each horse, mixed with other feed; it makes them lively, gives better endurance, and secures a bright hair coat.

The writer of this was bred a farmer in the State of New York; in later years he made and cultivated new farms in three of the Western States; and he always found an acre or two of sunflowers fully as profitable and useful as any other crop on the farm, for above purpose.

He also found it more profitable to get 1,000 bushels of corn from ten acres than from fifteen acres; more profitable to get 100 bushels of wheat from three acres than from five acres. He generally obtained these results, too, by applying the same labor and expense to one acre that his neighbors applied to twice that much land. Land will return full reward for all the deep fine plowing and manure that is applied on it; think of it boys.

D. S. C.

SMALL FRUIT GROWING.

Conditions are promising for a rapid increase in small fruit growing in this country. Growing tree fruits has become very hazardous over at least one-half the orchard area of the country, including what were once the very best localities for orcharding. This is the result from two causes, among others. First, the wholesale destruction of forest has changed the climate, making it subject to greater extremes and to more sudden changes, hence less friendly to fruit trees; and, second, the destruction of birds, to satisfy the demands of sport or of wanton fashion, has led to a large increase in the destructive insects which attack the trees or their fruit. As small fruits will withstand greater severity of climate and as their insect enemies are comparatively few, these small fruits will be largely used in place of orchard fruits. In nearly every locality where there is a decline in the pear, apple, peach or plum orchards, there is a corresponding increase in the strawberry, raspberry, blackberry, currant or grape grounds. It is easy to get varieties of these latter fruits which will bear a crop every year, weather and insects to the contrary notwithstanding.

The better facilities for disposing of small fruits have stimulated their growing, and will stimulate it even more in the future. The apple became the fruit for all places and seasons, as much because it could be preserved in its natural state as because of anything else. Until recently it was impossible to put berries and grapes in their natural state on a market further than one hundred miles away. But now it is possible for the growers of berries or grapes in localities favored with good railway facilities, to put their fruit on markets hundreds of miles away, in good condition. How great a stimulus this is to small fruit growing is demonstrated by

the very rapid increase in this industry in localities that have ample railway facilities. The improvements made in preserving small fruits, by canning or evaporating them, have had a similar effect. Although canning fruits was practiced before the destruction of Pompeii, it is only within a quarter of a century that it has been commonly used in this country; and the same is true of evaporating fruits. In fact, canning and evaporating became *industries* only a few years ago. The methods now employed make possible what was impossible before, the preservation of small fruits with little hurt to their palatableness, easily and economically; and this already has led to a large extension of small fruit growing, and will make a yet larger increase in the future. And such increase should be cause for congratulation and console us for the increasing difficulties of orcharding. The growing of small fruits ought to be profitable, and their consumption is certainly healthful.

AGRICULTURAL EXPERIMENT STATIONS.

[From Edward R. Flint's Essay at the Graduating Exercises of the Massachusetts Agricultural College, at Amherst, June 22, 1887.]

Among the various institutions which the progress of civilization has called into existence, the Agricultural Experiment Station is one of the greatest importance, devoted as it is to Scientific Agricultural investigation and advancing the most necessary branch of industry engaged in by man. Their value is destined to increase more and more as the country becomes more thickly settled, the virgin fertility of the soil exhausted, and the necessity of working worn out lands more imperative. Europe, with her crowded population is already in this condition,

and it is natural that this institution should have its birth in that country.

Previous to the founding of the first experiment station, many investigations were carried on, both in Germany and in England, by such careful men as Liebig, Volker, Danbury, Stockhardt, and others. The first movement for the founding of an experiment station under the control of the Government originated at Michern in Saxony, in 1851 or 1852. From this time there was quite a rapid increase, and in 1877 we find on the continent of Europe 122 stations established in which the Government was interested.

The first station in this country was established in the State of Connecticut in 1875. This grew out of the necessity of protection from the fraudulent fertilizers put upon the market by unscrupulous dealers. This was carried on to such an extent that in many cases the farmers were paying high prices for very nearly worthless articles. In 1882 Stations were established in New York, New Jersey, Ohio and South Carolina. These were soon followed by the establishment of Stations in Massachusetts, Alabama, Wisconsin and Maine. In addition to these, many private individuals are carrying on experiments as at Houghton Farm. These Stations have done much to benefit the Farmer in many ways. In the purchase of that primary necessity to successful agriculture, fertilizers, it has given the farmer a guarantee of what he is buying.

Sir Humphrey Davy says: "Nothing is more wanted in agriculture than experiments in which all the circumstances are minutely and scientifically detailed. This art will advance with rapidity in proportion, as it becomes exact in its methods. As in physical resources, all the causes should be considered. A difference in the results may be produced by the fall of a half inch of rain, more or less, in the course of a season, or a few degrees of

temperature, or even by a slight difference in the subsoil or in the inclination of the land. Information gathered after views of distinct inquiry, would necessarily be fitted for inductive reasoning and be capable of being connected with general principles of science. A few histories of truly philosophical experiments in agricultural chemistry would be of more value in enlightening and benefitting the Farmer, than the greatest possible accumulation of imperfect trials conducted merely in the empirical spirit."

Immense difficulties beset the experimenter at every stage. There has been no great scientific truth, which has been of permanent benefit to agriculture, the discovery of which has not been made by years of constant untiring effort. We to-day, who look for progress and help from science in the development of this the oldest of arts, must not expect that great truths can be arrived at in a moment. Discoveries made in agriculture are not merely for the present time and the locality in which they are made; their results will extend to future ages, and ultimately tend to benefit the whole human race, affording means of subsistence for generations yet to come.

NEW ENGLAND FAIR OF 1887.

This year this great Agricultural Fair will be held in the City of Worcester, Mass., commencing Tuesday, August 30, and continuing four days. It has generally been of great interest to all agriculturists, and has won the favorable comments of eminent Farmers in all parts of our country. It has always proved a great success, and this will certainly not go back on any former record. We hope many of our influential Farmers will attend, and not only reap any benefit which may be derived from the attendance

for themselves; but we trust they will introduce this benefit into the gatherings of Farmers in Maryland.

RABBITS AND CATS.

In Australia the rabbits became such a fearful nuisance that it was necessary to use some method for their destruction. Accordingly large numbers of cats were introduced there, enclosed in pens and fed upon rabbits for a time and then turned loose. They have cleared some portions of the country of rabbits already, and are spreading their labors in every direction, destroying all rabbits wherever they go. The question naturally arises, when the rabbits are all eaten by the cats and the cats have overrun the country, what will they get to relieve them of the cat nuisance? We are greatly of the opinion that the swarm of cats in the woods will be a far greater trouble than the swarm of rabbits have ever been.

FREEDOM, CARROLL Co., MD.,
June 24th, 1887.

T. M. BRODERICK, ESQ.,
Ag't Atlantic Dynamite Co.

DEAR SIR:—Your Mr. T. E. S. Bailey has just finished blasting two fields of stumps for me, and I must say I was very agreeably surprised at the way your Judson Dynamite blew them into fragments, as it went far beyond all my expectations. The more solid the stump the more successful the blast, and being much more economical than any other mode of ridding land of them, also, the most expeditiously. I most cheerfully recommend it to Farmers, Road Supervisors and all others having stumps of trees to be removed.

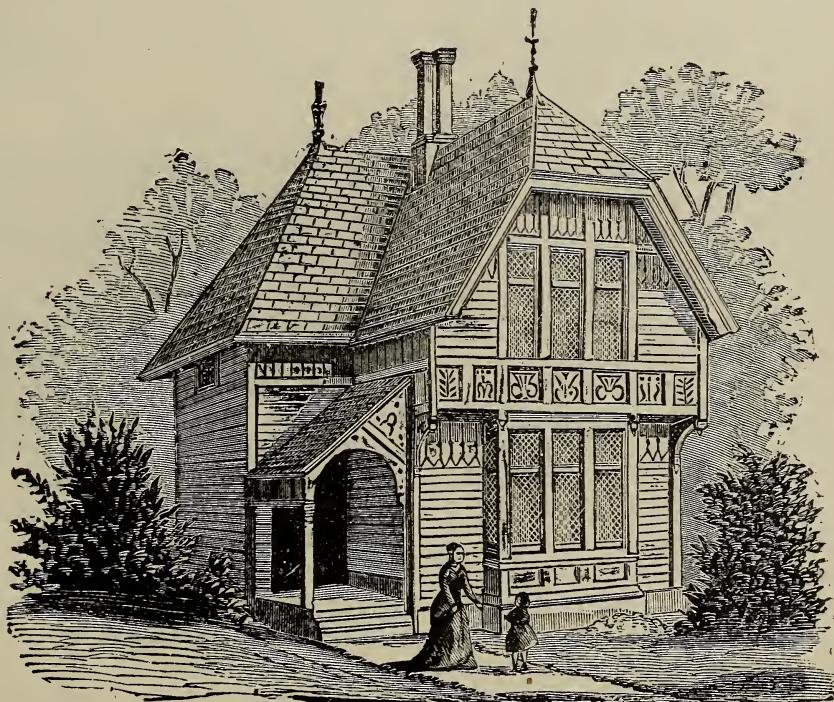
RICHARD J. BAKER.

MANY of the blemishes on good horses are the result of carelessness.

AN ORNAMENTAL COUNTRY
COTTAGE.

We give illustration of a plan and elevation of a cheap, but very ornamental, country cottage, which will be found both convenient and comfortable for a small family. If this plan is not extensive enough to meet your wants, it can be easily enlarged upon by making additions, or by enlarging the size of the whole plan, and thus increasing the dimensions of the

window. The kitchen is well supplied with closets. The first floor could be very much improved by adding a one-story kitchen at the rear, making the living-room into a parlor and the kitchen into a dining and sitting-room; the additional cost would be very small. The second floor contains three bedrooms, very conveniently arranged, and each provided with a closet. The two down-stairs rooms and the large front bedroom are supplied with open fire-places, the value of which for



rooms. This, however, would necessarily add to the cost of construction. The cottage, as shown in our illustration, presents a very aristocratic appearance, and, considering the small amount of money required for its construction; is, we think, a very desirable plan for a cheap and good dwelling house. The porch, with its seat, is large and roomy; the living-room is of good size, well lighted by a square bay-

ventilation is so often overlooked in cheap houses. Besides this, there should be ventilating tubes or shafts in the chimney sides, with registers opening from each room, thus insuring a good system of ventilation. The roof should be ventilated by openings under the projected eaves. The estimated cost of this building is from \$1,200 to \$1,800, according to locality and style of finish.

KNIGHTS OF LABOR IN CONVENTION.

The Knights of Labor held a two days session in Baltimore June 27 and 28, 1887, in Canmakers' Hall. The gathering was a large one, and was held, among other matters, especially with the view of influencing legislation on subjects which they deem essential for their welfare. A considerable part of their time was spent in the discussion of what they would have the Maryland Legislature enact into laws at their next session. Some of the matters asked are unobjectionable, except on the score of class legislation, while others are decidedly objectionable to any, except the one idea fanatics who see good in only one direction. This is seen in the endorsement of the Henry George ideas of taxation, and the effort to free the landless from all share in the burdens of government. They ask almost every favor, and protection, and benefit which government can bestow, yet at the same time show that they are unwilling to bear a particle of the expenses of government, wishing all to be laid upon the land, and none upon the products of industry. The following, also, smacks of the Connecticut blue laws, of which we have all heard and which have been the subject of general ridicule. We doubt one can be found in the whole catalogue of blue laws, which can compare in injustice, bigotry and interference with individual rights, with this one gravely presented by this convention :

"That it be made a criminal offense for any employer to exact or demand from any employe or workman whom he wishes to employ a pledge or signature that he does not belong to or will not join any labor organization, to be punishable by imprisonment."

This is one of the items which would hardly commend itself to the Farmers of our State, and we may say others would

operate very hardly and unjustly upon Farmers. For example: A law defining eight hours as a days' labor; a law that employees shall be paid every week, and only in money; a law making Saturday afternoon a half holiday; and all similar laws. Farmers have interests as well as mechanics and laborers, and whenever any one class asks legislation for themselves regardless of the rights of all others, it is time to pause and consider where such miserable stultification would lead us.

Even the general newspapers have recognized the anarchical tendency of some of the proceedings, and one of them comments as follows:

"HENRY GEORGE MEN."

The George men were in full force, and had the best debators. Political economy was handled in a lively manner, and the recommendation that bare lands be taxed won by a good majority."

A Legislative committee to carry the resolutions to Annapolis and urge their passage in the Legislature was selected, the members being Hector Cochran, of Barton, Md., with James Campbell, alternate, to represent Western Maryland, J. G. Schonfarber, of Baltimore, and Patrick Reedy, of Northeast, to represent the Eastern Shore.

ROUND BAY.

This is a new resort for Baltimoreans just fitted up on the Annapolis Short Line R. R., without reflecting at all upon Tolchester or Bay Ridge, which are both beautiful places of summer resort, there is still ample room for a beautiful resort which can be reached by Rail, without the objections of steamboat travel, which to a large number are serious. Round Bay is reached in 50 minnites from Camden Station, and wholly by rail. We had the pleasure of an excursion there with our

family, and it proved a pleasure indeed as well as a surprise. The fittings up are convenient and tasteful. A fine Hotel Restaurant, dancing pavillion, a variety of swings and flying horses for the children, bathing houses, and an abundance of sail and row boats for those who would enjoy the "Ocean Wave." By means of an artesian well 150 feet in depth, and a fine spring which is conveyed to the Hotel by pipes, provision is made for an abundance of good and pure water. Those who may use this resort will find attention and welcome from all connected with the establishment and will be insured a pleasant visit.

THE LARGEST VINEYARD ON EARTH.

WHAT IRRIGATION HAS DONE ON A NAKED PLAIN.

There has been a great deal written about Senator Stanford's immense ranch at Vina, but the only way to get an adequate idea of it is to pay the place a visit. This an Enterprise reporter did a few days ago. Stanford's ranch begins at the Tahama county line, and the first view one gets of his land is not prepossessing. It is nothing but a barren, treeless plain, where the bedrock drops out in spots and everywhere lies but a few feet beneath the surface. Nothing will grow here except a short, dry weed, but the sheep like this weed, and the plain is therefore one vast sheep range, for Senator Stanford is a man of varied resources, and manages to find a use for all the land he owns.

As you approach Vina the aspect of the country suddenly changes, and you jump from sunburned plains into the midst of green alfalfa fields and vineyards. The former are made productive by frequent flooding and irrigating ditches. This flooding is good for the soil, but bad for health, and if it makes alfalfa, it also

makes malaria. The water is brought in ditches from Deer creek and turned into the fields until it stands in a vast lake. As soon as one crop of alfalfa is cut another is raised in this way all the year round. It is used very extensively for stock in place of hay.

But the vineyard is the wonderful feature of the Stanford ranch. It extends for several miles up and down on each side of the road as you approach Vina, and back from the road as far as the eye can reach. In some places the vines are large, in others they have just been set out, and in the latter case they are supported by an army of stakes. This vineyard contains 3,500 acres, and is the largest in the world, but still the Senator is not satisfied, and proposes to have 5,000 acres. More vines are being set out every year. The prettiest sight of all are the old Greek vines, which form the nucleus of Senator Stanford's vineyard. These vines are all old, and stand fully five feet high. The trunks are larger than a man's arm. The branches are trimmed off at the bottom and allowed to grow out at the top, until the vineyard looks like an orchard of young peach trees, and they are all pruned off so evenly that they make one level floor of green as the eye glances across them.

The vines already in bearing require the attention of several hundred men to take care of the grapes they produce; and it will take a small army of men to attend the crop each year when all the vines get to bearing. The winery already in use on the ranch is a large building, but now Senator Stanford is having a brick structure erected which covers two acres. The walls are already up, and 140 pillars are being erected to support the roof. The building is to hold the wine vats and casks, and is a sort of wine cellar above ground. It is of mammoth proportions,

but so is the vineyard, and so will the crop of grapes be.

One could talk about the vineyard and winery all day, but there are other things to be mentioned. Next to his vines, in Senator Stanford's esteem, comes his fine horses. Of these there are large bands to be seen, all beauties and of the best blood. The senator makes a specialty of raising fast horses, which he sells for fancy figures. Every animal is spirited, beautifully proportioned, and looks slick and smooth. The two stallions to which he breeds all his mares are Clay and Whips. The former the Senator values at \$10,000. Clay is a rather small brown horse, kind and gentle in disposition. Whips is a fine large bay, full of life and beautifully built. In fact, the Senator considers Whips the ideal of horseflesh, and beyond price. The animal was expected to make very fast time, but was lamed in his early training at Palo Alto, and hence is used for breeding purposes. Several fine horses have been lamed lately on the Palo Alto track, which is considered too hard, and the Senator intends to build a training track on his Vina ranch. Negotiations are now in progress for the purchase of the Copeland estate, which adjoins Sanford on the west, next to the river, and when these negotiations are completed the track will probably be built on this land. Then all of the fine stock will be brought to Vina, which will be made headquarters for the training department.

Other features of this wonderful ranch deserve extended mention. The nine large barns for the horses, which are made as comfortable as most dwellings; the barns where the Holsteins have their quarters, kept as neat as a parlor; those fine old Holstein cattle themselves of monstrous size and beautifully marked in black and white; one cow in particular, which is being fattened for beef, to weigh 2,500 lbs.

and which now weighs nearly 2,000; Senator Stanford's handsome two-story residence, with its extensive lawns, flower gardens and statuary—all of these things attract the attention and excite the interest of the stranger. But then everything about this great ranch is of interest, and after the visitor has spent the day in examining the different features he still feels how little he has seen. The ranch is one of the wonders of this wonderful State.—*Chico (Cal.) Enterprize.*

THE QUEEN'S JUBILEE.

Tuesday the 21st of June, was the 50th anniversary of the coronation of Queen Victoria, of England. It was celebrated in all the British dominions with a pomp and enthusiasm worthy of the good and great queen she has proved herself to be during all her reign. When we consider the great disasters which always befall a people governed by a tyrannical or a vicious ruler, we may feel ready to unite with the masses of the enthusiastic subjects of this good queen in making her jubilee a general occasion of rejoicing. No one, but crazy fanatics, would be willing to take from Victoria a single joyful recognition of the greatness and goodness with which she has wielded her sceptre over the British Empire for fifty years.

J. J. TURNER & CO.

We take much pleasure in calling the attention of our readers to the well known fertilizing house of J. J. Turner & Co., advertised in our columns. This house has done an extended business for years and has given general satisfaction to those who have patronized them. Their fertilizers are to be relied upon as fully up to the standard guaranteed by them, and for promptness and reliability they have no superiors.

DEATH OF EZRA WHITMAN.

It is with sadness we are obliged to announce to our readers the death of the Editor and Proprietor of the *MARYLAND FARMER*. Up to the day of his attack he had been enjoying his usual degree of health, and had made all his arrangements for his annual trip to the North, planning an extended series of visits to various State Fairs in the interest of his loved Magazine and its readers.

The life and services of this worker in the agricultural interests of the people are too well known to the readers of the *MARYLAND FARMER* to need extended remarks from us at this time; but we insert here the accounts of his death and funeral from the *Baltimore Sun*, with the accompanying remarks recounting in brief the history of his life work.

THE WELL-KNOWN EDITOR, AGRICULTURIST AND INVENTOR PASSES AWAY.

Mr. Ezra Whitman, editor of the *MARYLAND FARMER*, died at 3.30 o'clock yesterday morning at his residence, No. 149 Madison avenue extended, near Druid Hill Park. He was in his 76th year. Up to last Saturday he had been a remarkably vigorous and active man for his years. On that day he was attacked with cholera-morbus, and his strength was much reduced in a few hours. He rallied on Sunday, but the improvement did not continue.

Mr. Whitman was born at Bridgewater, Mass., June 7, 1812. When he was four years of age his parents removed with him to Winthrop, Maine, where he was educated. His father was an ingenious mechanic, and had a large machine shop and manufacturing establishment. When about twenty years of age, having acquired a thorough knowledge of his father's business, he entered into an engagement for one year with Jacob Crocker, of Waterville, Me., to learn watchmaking and silver-smithing. Mr. Crocker became attached to Mr. Whitman, and voluntarily released

him a month before the expiration of his service, on June 7, 1833, his twenty-first birthday. Mr. Whitman opened business as a watchmaker and jeweler in Winthrop, and continued it six years successfully. He next turned his attention to the invention of labor-saving implements. Mr. Whitman's attention was especially directed towards the construction of a machine for reaping and mowing, though at that time the idea of cutting grain and grass by machinery was thought impracticable. His father's ingenuity as a mechanist having been employed for several years upon a model reaper, which he so far perfected as to satisfy himself that the project was practicable and would soon be a success, Mr. Whitman, in connection with him and the late Mr. Thos. White, who afterwards established large machine shops at York, Pa., began the construction of a full size two-horse machine, which is believed to have been the first reaper and mower ever made. It was begun in 1824, but not finished until 1832, and though in some respects defective, it more than met the expectations of its projectors, and solved the problem of cutting grain by machinery, and thus prepared the way for the perfect mechanism of the present time. Mr. Whitman continued his improvements in agricultural implements and secured several valuable and important advantages which are now in general use. Finding but little demand in Maine for his implements, Mr. Whitman resolved to seek a locality where agriculture was more largely prosecuted, so as to bring his inventions into more general use. He therefore moved to Baltimore in 1843, and commenced their manufacture by steam power. At that time farming implements in Maryland were extremely primitive, and Mr. Whitman's came rapidly into use. He substituted machinery for hand work in the manufacture of his implements, and thereby reduced the cost. He built the first establishment for the manufacture of plows south of Mason and Dixon's line. In addition to his own manufacture he established a warehouse for the sale of agricultural implements and seeds and fertilizers, which became widely known. Mr. Whitman took an active interest in the promotion of farming interests. He

was for many years a director in the Maryland Institute and one of the vice-presidents of the Maryland Agricultural Society, and was at the time of his death a trustee and registrar of the Maryland Agricultural College. Mr. Whitman established and published the MARYLAND FARMER, a monthly periodical, devoted to agriculture and horticulture. He was president of the People's Mutual Live Stock Insurance Association of Baltimore; was instrumental in the formation of the Maryland State Horticultural Society, and was its first president; and was an active member and treasurer of the National Agricultural Congress. He cast his first presidential vote for Andrew Jackson, and had remained a steadfast democrat ever since. He was a member of the convention of 1867, which framed the present constitution of Maryland. He was an Odd-Fellow for many years. Mr. Whitman leaves a widow and five children, all grown.

The funeral of Mr. Ezra Whitman took place July 14 from his residence, No. 149 Madison avenue extended. The service was conducted by Rev. James Shrigley, of the Universalist Church, of Philadelphia, who was a personal friend of Mr. Whitman. He and Rev. H. R. Walworth made short eulogistic addresses. The pallbearers were Andrew C. Trippe, R. Q. Taylor, Dudley T. Morton, Wm. H. Oler, R. T. Dawson and Marcus Chipman. Among those present were Fielder C. Slingluff, C. H. Oehm, W. Burns Trundle, Dr. I. R. Page, J. C. Eichman, John H. Gorsuch, Henry G. Taylor, T. H. Thomas, Allen Rigney, E. E. Wenck, M. F. Farber, H. G. Platt, Wm. H. Tyson, H. G. Smith, J. G. Reaney, Isaac S. George, G. W. Gail, George Houser, A. L. Boggs, Jr., H. J. Chilton and others. The interment was at Greenmount Cemetery, where the Rev. Edward H. Ingle, of St. Bartholomew's Church, read the service of burial. Stewart & Mowen had charge of the funeral.

The Magazine will be issued as usual in the future, and though it will not have the guidance of the ruling mind which has been present during the past twenty-three years, we trust its usefulness and power for good will continue.

Domestic Receipts.

TO BOIL A HAM.

Wash the ham thoroughly in two or three waters, then put it on in boiling water and let it boil several hours, allowing about twenty or twenty-five minutes to a pound. When done, unless needed for immediate use; set it away and when cold skin it. On sending it to the table, put fringed letter paper around the shank. If preferred, glaze the ham by covering it with the beaten yolk of an egg, and then scattering pounded bread crumbs or cracker crumbs thickly over it, and set it in the oven a few minutes to brown. The large platter, on which it is served, looks well garnished with parsley.

ROAST BEEF.—Wash the beef, season with salt and pepper and lay it in a dripping pan with about a cupful of water, and set in a good oven. Baste it, with its own gravy, a number of times. If it is required rare, about two hours will be long enough to cook it. Just before it is done, dredge it with flour to brown it. On taking it up, skim off the fat from the gravy, add a little flour and let boil up once or twice.

BEEFSTEAK — Fried. — Although epicures would scorn to eat a beefsteak if known to be fried, yet if it were done strictly according to directions we doubt if they would be able to detect the difference. Prepare the steak in the same way as for broiling. Have the frying-pan exceedingly hot; just before putting the steak in, drop into it a piece of butter half the size of an egg. Turn the beefsteak constantly, and on taking it up season with pepper and salt. Keep it hot while dredging the frying pan, into which you have put a little hot water, with flour. Stir and boil this gravy a minute or two, and pour it over the steak. While the steak is cooking, be sure to keep the frying-pan covered.

THE

"MARYLAND FARMER"**A STANDARD MAGAZINE,**

DEVOTED TO

Agriculture, Live Stock and Rural Economy,Oldest Agricultural Journal in Maryland and
for ten years the only one.

EZRA WHITMAN, Editor and Proprietor.

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The Maryland Farmer Purchasing Agency.

THIS Agency has been some years in operation, increasing in usefulness each year, until it has become of great convenience and importance to the Farmer. In the hurry of the work upon the Farm, often some article is required, and if the Farmer has to leave his work and visit Baltimore to purchase the article wanted, it would be a great inconvenience and expense to him, while all that is now necessary, is, to enclose check, draft or Post office order to the "Maryland Farmer Agency," and the article-wanted will be purchased and shipped at probably a less price and of better quality than the Farmer would have obtained had he come to Baltimore himself. Therefore the Agency has become of great value to Farmers throughout the South.

The Agency will guarantee that any article purchased will be at the lowest market price in Baltimore, and without charge for commission.

THE
MARYLAND FARMER
PURCHASING AGENCY
141 WEST PRATT STREET,
BALTIMORE, MD.

Patrons of this Agency will have the experience of one who has been more than forty years engaged in this business, and well acquainted with every article that is required for the farm and plantation. We will furnish

FARM IMPLEMENTS
OF EVERY DESCRIPTION,

Seeds, Fertilizers, High-Bred, Fashionable, and Herd Book Stock, Poultry, &c., and any article wanted upon the Farm, in large or small quantities, at the LOWEST CASH PRICES.

TERMS:—In order to supply our customers at the lowest prices, it will be necessary for the cash, P. O. order or draft, to accompany the order.

EZRA WHITMAN,
BALTIMORE, MD.

SPECIAL OFFER.

The MARYLAND FARMER will be furnished 1 year, and from date of order for one dollar, postage prepaid. Those wishing to avail themselves of this offer will enclose to us one dollar in currency, check, P. O. Order or stamps, and it will have our prompt attention. The following blank may be cut out and filled up which will save the trouble of writing:

E. WHITMAN, Editor of Maryland Farmer.

Dear Sir:—Enclosed please find one dollar in.....for which please send me the "Maryland Farmer," as per the above proposition.

Name,.....

Post Office,.....

County,.....

State,.....